AMENDMENTS TO THE CLAIMS:

The following listing of claims supersedes all prior versions and listings of claims in this application:

1-38. (Cancelled)

39. (Currently Amended) An adaptive overload control method for a communications network comprising a plurality of network access points and one or more network access controllers, wherein ~~access~~ the amount of traffic offered to the communications network via the plurality of network access points is controlled by said one or more network access controllers, thereby enabling said one or more network access controllers to externally control the amount of traffic processed by regulating the rate of said offered traffic, the method comprising:

offering traffic to a said network access controller via a plurality of said network access points[[;]] wherein said network access controller:

~~determining~~ determines if an overload condition exists and, if so,[[;]]

~~the network access point generating~~ generates at least one global traffic constraint ~~information comprising a per-line gap interval and an estimate of the current rate per line at which traffic is admitted to the communications network,~~ ~~derived from said aggregate offered traffic rate,~~ to restrict the rate at which a

network access point admits said traffic is admitted to the communications

network via said plurality of network access points; and

communicating communicates said at least one global traffic constraint

information to one or more each of said plurality of network access points;

contributing to said aggregate traffic rate offered to the network access controller,

and

at each respective network access point receiving which receives said at least

one global traffic information responsive to said determination of said overload condition

existing at the network access controller constraint[[,]]:

processing the received global traffic constraint to determine local gap

interval constraint conditions for the respective network access point by

determining information to generate a local call gap interval (Δt) to be imposed on

traffic received by said respective network access point dependent on the traffic

rate and number of lines over which said respective network access point

receives traffic seeking access to the communications network;

determining an initial local gap interval (Δt_0) which differs from the

determined local gap interval (Δt), wherein each initial local gap interval (Δt_0) is

determined independently by each respective one of said plurality of network

access points to be between zero and the local gap interval (Δt) for said

respective network access point for said respective network access point which

~~varies randomly in length between zero and said determined local call gap interval (Δt);~~ and

~~imposing~~ applying said initial local gap interval (Δt_0) <u>before another call</u> <u>arrives</u> at ~~each of~~ said <u>respective</u> ~~plurality of~~ network access points ~~without waiting for traffic to be received at the respective network access point; and~~

~~imposing subsequently one or more of said local call gap intervals (Δt) if said determined overload condition still exists at the network access controller, wherein each of the subsequent gap intervals is imposed by allowing a first call to be admitted and by then blocking all subsequent calls for the gap interval (Δt).~~

40-41. (Cancelled)

42. (Previously Presented) A method as claimed in claim 39, wherein the network access controller analyzes the rate at which traffic is rejected by the network access controller to determine said at least one global traffic constraint.

43. (Previously Presented) A method as claimed in claim 39, wherein the network access controller determines if an overload condition exists at the network access controller from a reject rate comprising a rate at which the traffic offered by all of

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said plurality of network access points to said network access controller is rejected, and

wherein said at least one global constraint is derived from the reject rate.

44. (Previously Presented) A method as claimed in claim 39, wherein the

controller determines said at least one global traffic constraint by analyzing the rate at

which off-hook messages are rejected by the access controller.

45-47. (Cancelled)

48. (Currently Amended) A method as claimed in claim 39, wherein in said step

of communicating said at least one global traffic constraint information to one or more of

said plurality of network access points, said global traffic constraint information is

multicast to one or more of said plurality of network access points.

49. (Previously Presented) A method as claimed in claim 39, wherein the initial

gap interval (Δt_0) is determined at each network access point using a random or

pseudo-random technique.

50. (Currently Amended) A method as claimed in claim 39, wherein the

controller determines said at least one global traffic constraint information by analyzing

the rate at which off-hook messages are rejected by the access controller and, wherein said communications network is a VoIP network, and said traffic comprises call-related traffic.

51. (Currently Amended) A method as claimed in claim 39, wherein the controller determines said at least one global traffic constraint information by analyzing the rate at which off-hook messages are rejected by the access controller, and wherein said network access controller is a Media Gateway Controller and each of said plurality of network access points comprises a Media Gateway.

52. (Currently Amended) A method as claimed in any claim 39, wherein a global traffic rate constraint is determined by said network access controller for an address.

53. (Cancelled)

54. (Previously Presented) A method as claimed in claim 39, wherein a dial-plan is implemented by a network access point to make it unnecessary to send an off-hook condition message to the network access controller when a local gap interval (Δt) constraint is being imposed.

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55. (Previously Presented) A method as claimed in claim 39, wherein each network access point determines the initial gap interval (Δt_0) using a probabilistic method.

56. (Previously Presented) A method as claimed in claim 39, wherein the initial gap interval (Δt_0), if not zero, is determined by each network access point such that all of the network access points' initial gap intervals (Δt_0) are uniformly distributed in the range from zero to the local gap interval (Δt) determined by each network access point.

57. (Currently Amended) A method of controlling the number of calls received by a media gateway controller for admittance to a communications network, the media gateway controller being arranged to be connected to a plurality of media gateways, wherein the amount of traffic offered is admitted to the communications network via said media gateways under the control of said media gateway controller, thereby enabling said controller to externally control the amount of traffic processed by regulating the rate of said offered traffic, the method comprising:

offering traffic to a said controller via a plurality of said gateways, determining at the controller if an overload condition exists and, if so, generating at least one scalable call rate control parameter to restrict the rate at which a gateway offers traffic to the network at the media gateway controller, the at least one scalable call rate control

~~parameter comprising a per-line gap interval and an estimate of the current traffic rate~~

~~per line at which traffic is admitted to the communications network derived from the~~

~~current aggregate rate at which traffic is offered to the media gateway controller~~; <u>and</u>

~~the media gateway controller~~ multicasting the scalable rate control parameter[[s]] to

each media gateway within ~~the domain of~~ <u>a</u> control <u>domain</u> of the media gateway

controller; <u>and</u>

at each respective media gateway[[,]]<u>:</u>

receiving said scalable rate control parameter[[s]], and:

scaling the call rate control parameter to determine a scaled call rate

control parameter at the respective media gateway, wherein the scaled call rate

control parameter comprises a <u>local</u> call gap interval (Δt) to be imposed by the

respective media gateway on calls seeking admittance to the communications

network~~, wherein the call gap interval (Δt) is dependent on the traffic rate and~~

~~number of lines over which said respective media gateway receives traffic~~

~~seeking admittance to the communications network~~;

~~imposing a predetermined~~ <u>determining an</u> initial local call gap interval (Δt_0)

<u>which differs from the determined local gap interval (Δt), wherein each initial local</u>

<u>gap interval (Δt_0)</u> is determined independently by each respective gateway to be

~~having a time duration varying randomly~~ between zero and the ~~time duration of~~

~~the~~ local call gap interval (Δt) <u>for said respective gateway, and</u>

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applying said initial local gap interval (Δt_0) before another call arrives at

said gateway ~~without waiting for a call to be received at the respective media~~

~~gateway; and~~

~~imposing subsequently one or more of said local gap intervals (Δt) wherein~~

~~each of the subsequent gap intervals is imposed by allowing a first call to be~~

~~admitted and by then blocking all subsequent calls for the gap interval (Δt).~~

58. (Previously Presented) A method as claimed in claim 57, wherein the initial

local gap interval (Δt_0) is initially active for a finite sub-set of said plurality of media

gateways.

59. (Previously Presented) A method as claimed in claim 57, wherein the initial

gap interval (Δt_0) is determined using a random or pseudo-random technique.

60. (Previously Presented) A method as claimed in claim 57, wherein at least

one of said scalable call rate control parameters is assigned to a predetermined called

address.

61. (Previously Presented) A method as claimed in claim 57, wherein a dial-plan is imposed by the media gateway controller on the media gateway to determine the control treatment applied to at least part of a called address.

62. (Previously Presented) A method as claimed in claim 57, wherein the media gateway analyzes at least a portion of the called address prior to sending any call related indication to the media gateway controller.

63. (Previously Presented) A method as claimed in claim 57, wherein the media gateway does not send an off-hook signal to the media gateway controller until the media gateway has analyzed at least one digit of the called address.

64. (Previously Presented) A method as claimed in claim 57, wherein the media gateway controller sends a dial-plan to the media gateway in advance of the media gateway receiving a call from a user.

65. (Previously Presented) A method as claimed in claim 57, wherein the media gateway controller indicates to the media gateway which dial-tone the media gateway should apply to the next call for a specific termination.

66. (Previously Presented) A method as claimed in claim 57, wherein the call

gap interval (Δt) is imposed by the media gateway after the media gateway has

analyzed the specific called address.

67. (Currently Amended) An adaptive overload control system for a

communications network, said system comprising:

a plurality of network access points; and

one or more network access controllers,

wherein the amount of traffic offered to the network via the ~~each of said network~~

~~access controllers is arranged to control a~~ plurality of said network access points is

controlled by said one or more network access controllers, thereby enabling said one or

more network access controllers to externally control the amount of traffic processed by

regulating the rate of said offered traffic ~~to provide traffic with access to said~~

~~communications network~~,

wherein the network access controller ~~is arranged to control the amount of traffic~~

~~admitted to the communications network via said network access points which it~~

~~processes by~~:

determines if an overload condition exists and, if so, ~~regulating the rate of~~

~~traffic offered by said plurality of network access points to the network access~~

~~controller by generating~~ generates at least one global traffic constraint to restrict

the rate at which a network access point admits said traffic to the

communications network, ~~wherein said at least one global constraint comprises a~~

~~per-line gap interval and an estimate of the current rate per line at which traffic is~~

~~admitted to the communications network derived from the current aggregate rate~~

~~at which traffic is offered to the network access controller by the network access~~

~~points~~; and

    ~~wherein the network access controller is further arranged to communicate~~

communicates said at least one global traffic constraint to one or more of said

plurality of network access points;

wherein each respective one of said plurality of network access points which

receives said at least one global traffic constraint ~~is arranged to process~~ processes the

received global traffic constraint to determine a plurality of local gap interval constraint

conditions for the respective network access point by:

    determining a local gap interval (Δt) to be imposed on said traffic received

by said respective network access point, ~~said local gap interval (Δt) being~~

~~dependent on the rate of traffic received by said respective network access point~~

~~and the number of lines over which said respective network access point~~

~~receives traffic seeking admittance to said communications network~~;

    determining an initial local gap interval (Δt_0) which differs from the ~~for said~~

~~respective network access point which varies randomly in length from zero to~~

~~said~~ determined local gap interval (Δt), wherein each initial local gap interval (Δt_0) is determined independently by each respective one of said plurality of network access points to be between zero and the local gap interval (Δt) for said respective network access point ~~of the respective network access point~~; and

~~imposing~~ applying said initial local gap interval (Δt_0) before another call arrives at said respective network access point ~~without waiting for traffic to be received at the respective network access point; and~~

~~imposing subsequently one or more of said local gap intervals (Δt) if said determined overload condition still exists at the network access controller, wherein each of the subsequent gap intervals is imposed by the respective network access point allowing a first call to be admitted to the communications network and by then blocking all subsequent calls for the gap interval (Δt).~~

68. (Previously Presented) An adaptive overload control system as in claim 67, including a network access controller arranged to received traffic offered by a plurality of network access points arranged to provide said traffic with access to a communications network, the network access controller further comprising:

a traffic monitor for monitoring the aggregate offered traffic rate comprising the traffic offered by all of said plurality of network access points to said network access controller;

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a processor arranged to determine from said aggregate traffic rate if an overload condition exists at the network access controller;

a processor arranged to generating at least one constraint derived from said monitored aggregate offered traffic rate; and

communication means to communicate said at least one constraint to each of said plurality of network access points.

69. (Previously Presented) An adaptive overload control system as in claim 67, including a network access point arranged to provide a network access controller with an offered traffic rate, and further comprising:

a receiver arranged to received constraint information from the network access controller; and

a processor arranged to process said received constraint information to determine one or more local constraints to be imposed on the traffic which limit the traffic offered by said network access point to the network access controller.

70. (New) A method as in claim 1, wherein said initial local gap interval (Δt_0) replaces an existing gap interval applied by that respective access point before an existing gap interval timer expires.

71. (New) A method as in claim 57, wherein said initial local gap interval (Δt_0) replaces an existing gap interval applied by that respective gateway before an existing gap interval timer expires.

72. (New) An adaptive overload control system as in claim 67, wherein said initial gap interval (Δt_0) replaces an existing gap interval applied by that respective access point before an existing gap interval timer expires.